

REMARKS

The present response is to the Office Action mailed in the above-referenced case on January 16, 2007. Claims 1-35 are standing for examination. The Examiner has maintained the rejection of claims 1-35 under 35 U.S.C. 103(a) as being unpatentable over Simons et al. (US 6,332,198) hereinafter Simons, in view of Zadikian et al. (US 6,724,757) hereinafter Zadikian.

In response, applicant herein provides further arguments to overcome the rejections of the claims on their merits. Applicant's arguments will clearly distinguish applicant's patentable subject matter over the combined teachings of Simons and Zadikian.

Applicant reproduces and responds to the Examiner's "Response to Argument" portion, kindly presented in the present Office Action:

"Applicant argues (Remarks, page 10) that Simons teaches that all application dependent data resides in memory 40 and not in software of each individual APS module. In Simons, information and communication needed to facilitate true APS is not stored locally in software of each individual APS module. Examiner respectfully disagrees. Simons clearly discloses: modular software architecture, software intelligence is stored locally. As shown in Figs 1, 5, and 33, computer system 10 includes multiple line cards 16a-16n. Each line card includes a control processor subsystem 18a-18n, which runs an instance of the kernel 22a-22n including slave and client programs as well as line card specific software applications. Each control processor subsystem 14, 18a-18n operates in an autonomous fashion. This shows that software is adapted to run on multiple-processor. Furthermore, Simons clearly discloses a distributed redundancy architecture that spreads software backup (hot state) across multiple elements (column 39, lines 43-48; line 62-column 40, line 12). In addition, Simons discloses that modular software architecture dynamically loads applications as needed by gathering necessary information

(i.e., metadata) from a variety of sources. Metadata provides seamless extensibility allowing new software processes to be added and existing software processes to be upgraded or downgraded while the operating system is running (column 6, line 55-column 7, line 12). This shows that true APS is accomplished with out data flow interruption."

Applicant points out that the independent claims of applicant's invention specifically recite; *"APS client modules running on second ones of the multiple processors, the APS client modules for monitoring interface state information, reporting to the APS server application, and for negotiating with other APS client modules; characterized in that all of the APS software-dependent data resides locally in APS software of each individual APS module, and further characterized in that APS interface relocation from a primary interface to a backup interface is performed, via said software, through direct communication between the APS client modules..."*

Applicant argues that the "software backup" of Simons is not APS software, as claimed. Further, there is absolutely no evidence in the art of Simons that APS software backup is implemented by direct communication between the involved software modules (primary & backup) at the interfaces. Simons teaches a hierarchical fault management system which clearly discloses that; "When master SRM 36 (on master processor) detects or receives notice of a failure or event, it notifies slave logging entity 433a, which notifies master logging entity 431. Master SRM 36 also determines the appropriate corrective action based on the type of failure or event its fault policy. Corrective action may require failing-over one or more line cards 16a-16n or other boards, including central processor 12, to redundant backup boards (col. 35, line 58 to col. 36, line 3). In every instance of backup in the art of Simons, a master application directs the switch-over between the primary and backup devices.

The Examiner further states that; "Furthermore, Simons discloses that to minimize synchronization time, many backup of software, which means that the software on the

backup elements mirror the software on the primary elements. The “hotter” the backup element that is the closer the backup mirrors the primary the faster a failed primary can be switched over or failed over to the backup.

Again, applicant argues that all software backups to slaves are distributed from the master processor and no "mirroring" occurs directly between APS modules to perform a 50 millisecond switchover, as claimed. Applicant points out that Simons teaches a hierarchical backup process using a master and slave process, while applicant's invention implements more of a horizontal structure.

Applicant again argues that because in Simons, information and communication needed to facilitate true APS is not stored locally in software of each individual APS module, as in applicant's invention and claims, the 50 millisecond time frames could not be accomplished as claimed. Applicant therefore strongly maintains that Simon suffers from network data flow interruption because true APS is not accomplished.

The Examiner retains the art of Zadikian to teach a 50 millisecond switchover, stating that Zadikian teaches a network element capable of performing routing functions that support simple provisioning and fast restoration (50ms). Applicant argues that what Zadikian actually discloses is that the scheme allows the line cards to select between the two copies of the group matrix without CPU intervention, which helps ensure 50-millisecond switchover. Simply because the Examiner has produced art teaching that a 50-ms switchover exists does not teach or suggest 50ms switchover in a distributed processing system, as taught in applicant's invention, as claimed.

Applicant therefore believes that claims 1, 12 and 24 as argued by applicant are clearly and unarguably patentable over the art of Simon and Zadikian, either singly or combined. Claims 2-11, 13-23, and 25-35 are then patentable on their own merits, or at least as depended from a patentable claim.

As all of the claims as amended and argued are clearly shown to be patentable over the prior art, applicant respectfully requests that the rejections be withdrawn and that the case be passed quickly to issue. If any fees are due beyond fees paid with this response, authorization is made to deduct those fees from deposit account 50-0534. If any time extension is needed beyond any extension requested with this amendment, such extension is hereby requested.

Respectfully Submitted,
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